



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

2016.2017 SPS Annual Chapter Report – University of Mississippi

School Name	University of Mississippi
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Chapter Advisor	Dr. Breese Quinn
Name and Title of person(s) responsible for preparing the report	President – Samyukta Krishnamurthy Vice President/Treasurer – Carolton Tippitt
Incoming SPS Leadership for 2017-18 Academic Year	President – Carolton Tippitt Vice President – Renée Sullivan-Gonzalez Treasurer – Jonathan Pittman Secretary – John Simpson

Part 1: Our chapter's interactions and participation in SPS National and Regional Programs.

- We had seven of our members attend Phys-Con this past year. While there, two of our members presented their research during the poster sessions. The two students that presented posters also applied for the travel award and had awarded them. Our department setup a booth to promote the University's graduate physics program.



The SLAC tour at Phys-Con

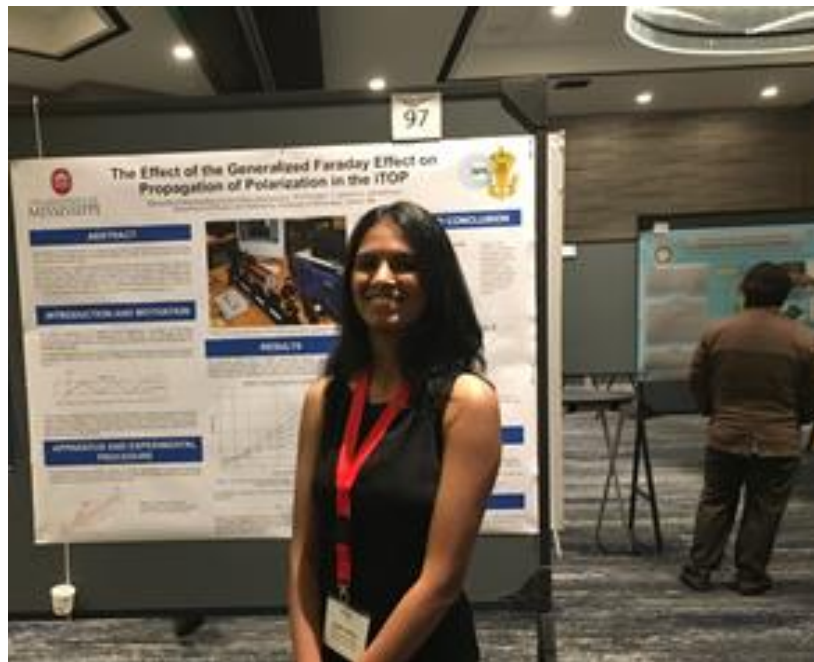


University of Mississippi Booth at Phys-Con

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Zone 10 at Phys-Con



Samyukta before her poster presentation

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- We hosted the University of Memphis – University of Mississippi joint stargazing night at our Department's Dark Site. The Dark Site is a clearing about 20 miles from our campus in the middle of the woods where there is minimal light pollution. This makes it ideal for stargazing.



Joint Stargazing night

- We Planned a second stargazing event for the spring semester and invited Rhodes College, University of Memphis, Christian Brothers University, University of Southern Mississippi, and Mississippi State University. Unfortunately, the second stargazing night was canceled due to pesky clouds blocking the stars.
- We also attended the Zone 10 meeting at Henderson State University.



Our Chapter at the Zone 10 meeting

- Renee Sullivan-Gonzalez ran for Associate Zone Councilor.

Did your chapter vote in the 2017 SPS National Council election? Yes

Part 2: Our chapter's interactions in our campus community

- Our chapter held a total of 21 meetings this year. 10 in the fall semester and 11 in the spring semester. The officers made sure that the agenda for every meeting was planned in advance and sent out to all the members and participating faculty.
- We began our semester with an ice-cream social. The incoming physics majors and other interested students were given the chance to meet up with senior physics students and faculty. The professors talked about the classes they teach and possible research opportunities while the senior's addressed questions involving stress and time management. This also gave SPS an opportunity to recruit new members and increase student participation.
- One of the SPS meetings in the fall involved an elaborate discussion about graduate school. Three faculty members, including the graduate student coordinator, gave us talks about the do's and don'ts of a graduate school application, how to go about selecting schools and contacting prospective graduate schools.
- We have a weekly colloquium hosted by our physics department. Physicists from different universities are invited to present their research.
- A large number of our active SPS members are graduate students in the physics department. Unfortunately, several of the international students were affected by the travel ban. The physics department and SPS members participated in a rally against the travel ban that helped promote inclusiveness amongst international students and create social awareness about such issues

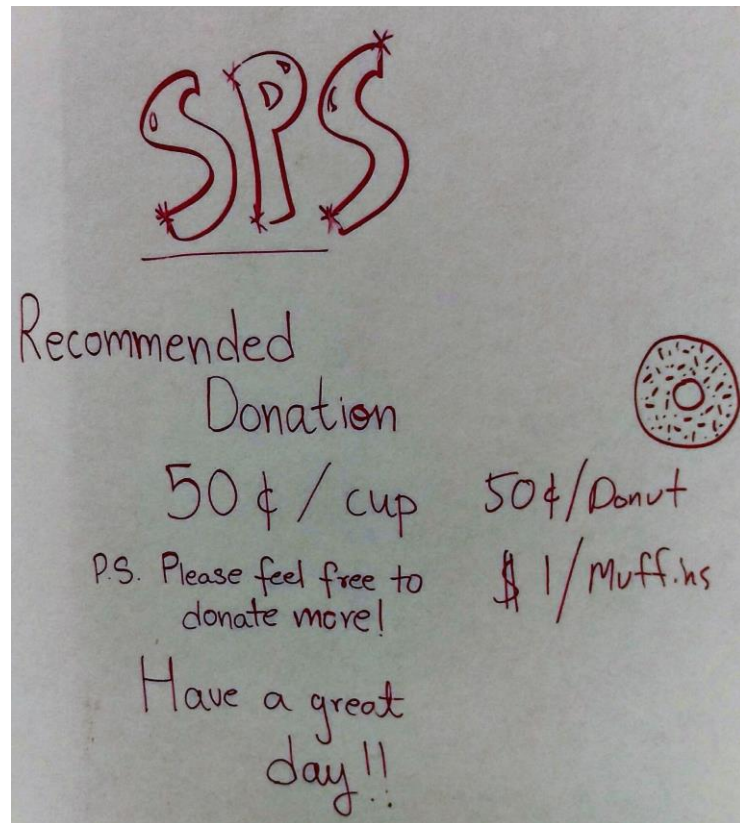


Rally against travel ban

- As a part of our fundraiser we set up a coffee area. Since Aramark owns all the rights to sell coffee on campus we set up free coffee and snacks with a donation box. Students and faculty brought the coffee

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they preferred and we were able to make a profit from this setup.



Flyer for the coffee station

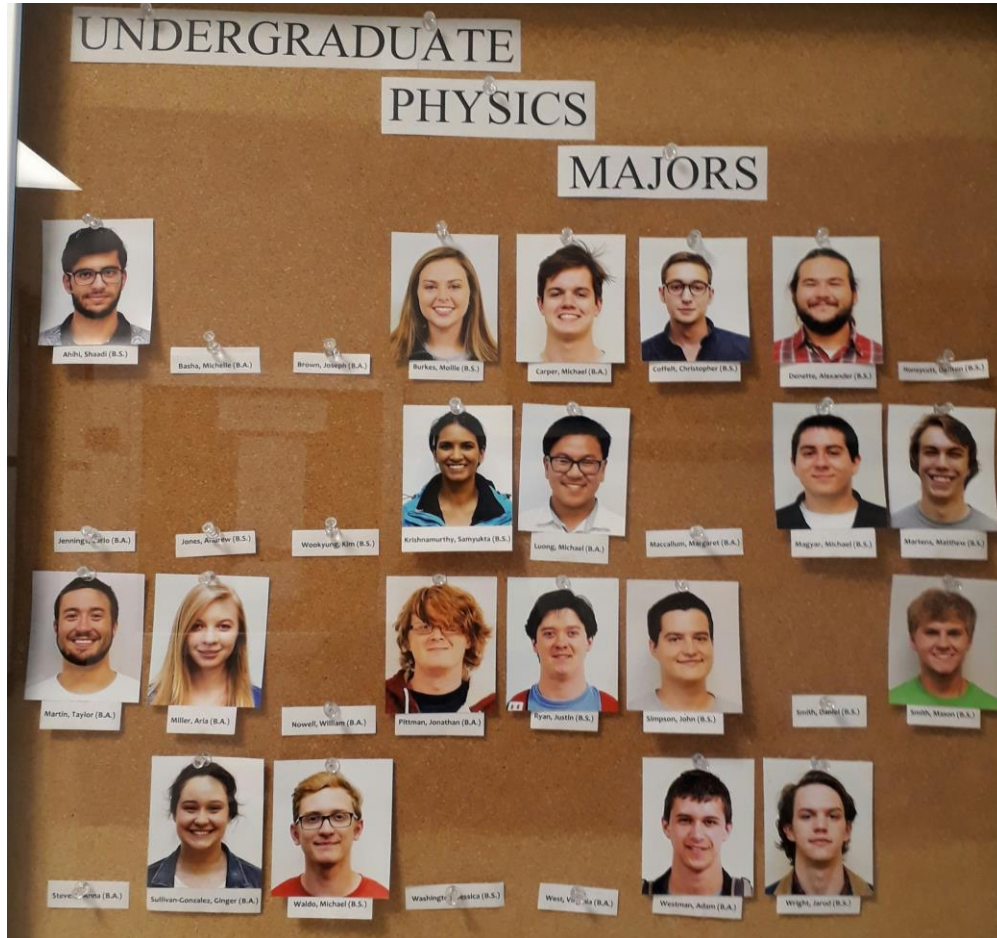
- Our final event for the semester was the March for science held on April 22nd. Although other departments participated in the march, this was organized mainly by the physics department with support from the SPS.



UM March for Science

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- One of our strategies for promoting SPS was the SPS student board (a.k.a the mugshot board). This board has the photographs of all the physics students, graduate and undergraduate, most of whom are active participants in our SPS chapter.



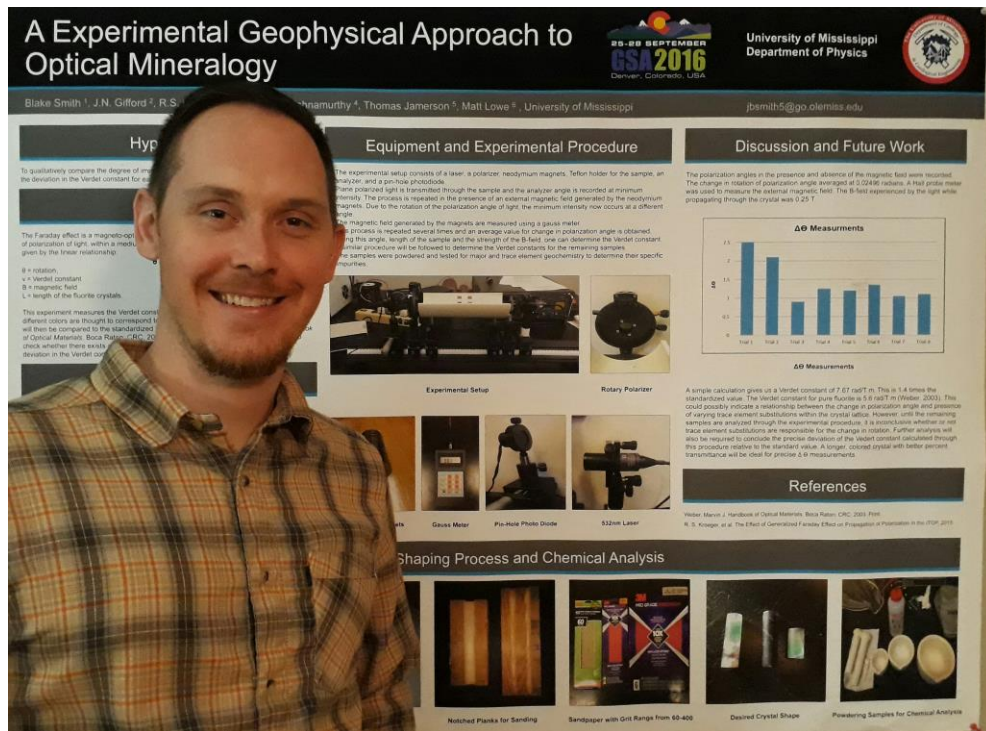
Mugshot board

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Did your chapter meet regularly this year?	Yes
How Frequently	Weekly
About how many people attended?	Average 20 per week
What is your Chapter's budget?	\$200
Do you fund raise?	Yes
Do you receive funds from your school?	Yes
How many people are SPS National members?	8 or more

2016.2018 Part 3: Our Chapter's interactions with the professional physics community outside the college/university

- One of our members Blake Smith is a geology major who is interested in geophysics. He did his research on the Verdet's constant for different colored fluorite samples. He presented this research at the national conference hosted by the Geological Society of America (GSA). He received several grants and travel awards for the same.



Blake Smith at GSA

- Renée Sullivan-González studied abroad at the University of Edinburgh in Scotland this past academic year. She represented our university and SPS chapter in her classes over two semesters as well as through attending presentations of the Edinburgh University Young Scientific Researchers Association in the physics and astronomy division and presentations of faculty and guest lecturers. In her time there, she was able to observe how Edinburgh University organized their academic societies, clubs, and conferences and come up with a couple ideas to apply to our chapter.

Part 4A: Our chapter's interaction with the off-campus public community

- During both semesters, our chapter was frequently asked to preform physics demonstrations (Demo Shows) to schools around the city and surrounding counties. We organized three major shows during the fall semester. For one of the events elementary school students were invited to the university. We preformed two of these shows on The Grove's stage. The Grove is a large green area where football fans go to tailgating on the weekends and students go to study and throw frisbees. However, on the days we preformed our shows, we took over the stage and taught physics to eager elementary students and several University of Mississippi students that stopped to see what was going on.



Preforming a demo show in our main lecture hall



Elementary student watching SPS conduct a demo show



Performing a demo show on the Grove stage



Samyukta demonstrating physics on the Grove stage

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- In October, we help our department with the Spooky Physics Night. This is an annual event where the department opens its door to the community and have a Halloween themed demo show. We (SPS) help decorate, perform the demo's, answer children's questions about physics, and clean up.



- In the spring, we had another two days of demo shows. We went to the local elementary school (different from the one above) and performed 12 demo shows over the course of 2 days. Each show had to be no longer than 40 minutes and we had an average of 30 2nd to 3rd graders in the classroom at any given time.



Jonathan Explaining the demo

- The University of Mississippi hosts the one of Mississippi's Regional Science Fair where we had members of SPS judge this past year.

Part 5: How our chapter strives to further the SPS Purpose and Mission.

SPS MISSION: "The SPS exists to help students transform themselves into contributing members of the professional community. Course work develops only one range of skills. Other skills needed to flourish professionally include effective communication and personal interactions, leadership experience, establishing a personal network of contacts, presenting scholarly work in professional meetings and journals, and outreach services to the campus and local communities."

- One of the benefits of having a smaller physics department is the sense of belonging. Members of the SPS are not just members but friends and a close-knit community. We take most of our classes together, have group sessions for homework and meet up outside of SPS to relax. The seniors are able to pave the way for new students and help them through stressful physics courses.
- A large number of our active SPS members are actually graduate students; they help juniors and seniors with decisions beyond their undergraduate degree like graduate school applications, applying for REUs and research projects.
- We try to stay in contact with our previous SPS members who have already graduated from the University so as to establish professional relationships with future physicists. They keep us informed about the job market and prospective graduate schools for students.
- Our SPS advisor, Dr. Breese Quinn does his research at Fermi Lab on the Muon g-2 experiment. He has, in the past, provided amazing research opportunities to students to do research under him at Fermi National Accelerator Laboratory during the summer. Samyukta Krishnamurthy was at Fermi Lab for 3 months last year working with Dr Quinn's group on the vacuum chambers to be used in the experiment.
- Unfortunately, Mississippi's high school education does not require a physics class. We as SPS members strive towards bringing physics to the all the students in the Oxford school district and all the nearby counties. This also gives us the opportunity to break the stigma associated with women physicists and scientists and inspire more students especially girls to pursue a career in science.
- SPS and our department promotes undergraduate research and our president Samyukta Krishnamurthy had a Belle II internal note:
Kroeger, R.S., Cremaldi, L.M., Summers, D.J., Jamerson, T.H., **Krishnamurthy, S.**, and Atkinson, J., *The Effect of the Generalized Faraday Effect on Propagation of Polarization in the iTOP*, University, Mississippi.

Sigma Pi Sigma Chapter Sigma Pi Sigma Activity Report

The physics department hosts a luncheon for the newly inducted Sigma Pi Sigma members. Faculty and Friends are invited to the induction ceremony and new members are awarded their certificates.

Did your chapter host a Sigma Pi Sigma Induction this year?	Yes	
Is the Sigma Pi Sigma Chapter active outside of the SPS Chapter? activities described above? (If yes, please tell us the story below)		No
How many members did you induct in 2016-17?		



Please **UPLOAD** your report in PDF format by **June 15, 2017**

Login to the membership.spsnational.org with your Chapter's credentials (the username is spschapter####) and click **Annual Chapter Report** in the main menu.



PLEASE remember to keep a record of your report on your local hard drive!

If you have any questions, please contact your Associate Zone Councilor or Zone Councilor

<https://www.spsnational.org/about/governance/national-council>

or the SPS National Office

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